

SUBSURFACE RESOURCES

Goals

Mineral and Energy Supplies. Make metallic and nonmetallic minerals, coal, oil and gas, and geothermal resources available to contribute to the energy and mineral supplies and independence of the United States and Alaska.

Economic Development. Contribute to Alaska's economy by making subsurface resources available for development, providing stable job opportunities and stimulating growth of secondary and other primary industries.

State Revenues. Establish a stable source of state revenues.

Environmental Quality, Subsistence, and Cultural Values. When developing subsurface resources, protect the integrity of the environment, subsistence resources, and affected cultural resources to the extent feasible and prudent.

State Support for Mining. Aid in the development of infrastructure (such as ports, roads, or railroads) and continue to provide geologic mapping and technical support to the mining industry.

Locatable Mineral Development Guidelines

A. Lands Open to Mineral Entry. All state lands that are open to mineral entry are multiple use areas where mineral development will be accommodated and encouraged. Recognized exploration methods for locatable minerals will be allowed on all state lands unless specifically closed to mining and will be subject to the conditions of a land use permit. DNR may determine that some traditional forms of access for mining will not be allowed in specific areas to avoid resource damage.

Where an area is open to mineral entry, a miner has the right to stake a claim regardless of the surface use designation or classification. Any adverse effects of mining on surface resources or

uses will be managed through compliance with state laws and regulations and the management intent and guidelines of this plan.

B. Reclamation of Mineral Land. Land use permits and approved plans of operations for mineral developments will specify the measures required of the operator to reclaim the land to a useful condition. In the absence of other post-mining land uses identified by the Northwest Area Plan, such as settlement, developed recreation, or material sites, the primary purpose of reclamation will be to provide useful fish and wildlife habitat. Determination of the specific measures to be taken and whether or not a performance bond will be required will be done in consultation with the affected agencies and coastal districts. Specific measures may include storage and reuse of topsoil; disposal of overburden; regrading of tailings and revegetation; reestablishment of a natural drainage system; long-term erosion control measures; and removal of equipment, improvements, and other man-made items.

C. Access for Mineral and Coal Development. Existing roads and trails should be used to provide access to mine sites wherever feasible. Regulations for miscellaneous land use permits require that access will be managed so that damage is minimal. (See *Wetlands Management* Guideline F, page 2-60.)

D. Control of Visual Impacts. Guidelines will be developed on a case-by-case basis as necessary through the land use permit or leasing process to minimize the adverse visual impacts of mining, especially in settlement areas and recreation areas, such as along the Kobuk River. In such areas, stipulations should consider, at a minimum, the following items: control of solid wastes; removal of vegetation; siting of mining structures, tailings and overburden; roads; and rehabilitation of mining sites.

E. Approval of Plans of Operation. Using procedures established under existing leasing laws and regulations, DNR reviews plans of operation required for locatable mineral leases

and will consult with and carefully consider recommendations of the Department of Fish and Game (DF&G), the Department of Environmental Conservation (DEC), and appropriate coastal districts. DNR will approve plans of operation if they adequately address the guidelines of the area plan and applicable laws and regulations, and if it can be demonstrated that instream mining will not significantly affect salmon productivity. Violation of the plan of operations is cause for revocation of the approved plan of operation or termination of the lease.

F. Land Sales in Areas with Subsurface Resources. See *Settlement* Guideline C-5, page 2-31.

G. Avoid Conflicts with Traditional Uses of Resources. See *Subsistence Activities and Traditional Uses*, Guideline A, page 2-43.

Leasable Minerals Development Guidelines

A. Coal Exploration and other Leasable Minerals. State land in the Northwest Area may be leased or opened for coal prospecting permits if the department determines it is in the best interest of the state as required by AS 38.05.035. Before a permit is issued, DNR will determine if the surface values are significant enough to warrant restricting surface entry. Decisions on surface entry for coal adjacent to streams will be made in consultation with the affected agencies.

B. Access for Mineral and Coal Development. See *Locatable Mineral Development* Guideline C on page 2-45.

C. Land Sales in Areas with Subsurface Resources. See *Settlement* Guideline C-5, page 2-31.

Guidelines for Resource Values That May be in Conflict with Coal or Mineral Development

A. Background. The decision to apply mineral closures or locatable mineral leasing will be made by the commissioner within the parameters set by the Alaska Statutes. AS 38.05.185(a) requires that the commissioner determine that mining is incompatible with a significant surface use before an area can be closed to mining. The same section of the statutes requires that the commissioner determine that a potential use conflict exists before requiring that development of locatable minerals be conducted only under a lease.

In some circumstances, the commissioner may find that some resource values require locatable mineral leasing, closure, or a prohibition of coal leasing and prospecting to protect their continued productivity and availability. In other circumstances, care during mineral development is all that may be necessary to protect these resources. It is impossible to predict the degree of conflict that could occur between mining and any other resource value in all circumstances. Therefore, the following categories of resource values will be evaluated to determine if locatable mineral leasing, prohibition of coal leasing or prospecting, or another management option is needed to protect the continued productivity and availability of the resource in conflict.

1. Retained Lands with Significant Commercial, Industrial, or Public Use Values

- Lands with significant coal, oil and gas, scientific, educational, or other commercial potential.
- Lands recognized as future transportation corridors where access for pipelines, road, railroads, or other surface transportation infrastructure could be blocked or impeded by mining claims. (After the alignment is established, areas will be reopened if they are surplus land.)
- Lands and waters that provide unique or unusual opportunities for human use and enjoyment, such as fishing, hunting, trapping, photography, and fish and wildlife viewing, or contribute significantly to a community economy.

- Lands and waters that provide significant recreation opportunities, such as clear water rivers that are now or are expected to be important for recreation, key public access sites, and recreation facilities.
- Lands and waters that are the watershed of a community water supply.
- Sand and gravel pits, stone quarries, or other significant known material sites where development might be impeded if mineral claims were staked.

2. Retained Lands With Significant Fish or Wildlife Resources

- Lands and waters that support protected species of plants, fish or wildlife (bald and golden eagles), threatened species (Arctic peregrine falcon), or endangered species (American peregrine falcon).
- Lands and waters that support production or maintenance of fish or wildlife species that have significant economic, recreational, scientific, educational, or cultural values or which have been given special protection through state or federal legislation or international treaty.
- State game refuges, critical habitat areas, and sanctuaries. In decision memorandum 44 signed by the commissioner in January 1984, DNR set the statewide policy that in legislatively established Critical Habitat Areas and Wildlife Refuges mining will occur under lease, though the policy has not been implemented yet. Also, individual legislatively designated areas may be recommended for mineral closure, but such a closure would be decided case by case using the criteria found in AS 38.05.185(a).
- Other lands and waters not included above that are known to support unique or unusually large assemblages of fish or wildlife.

B. Areas Closed to Mineral Entry. Locatable mineral closures are the most extreme management tool that can be used by DNR to resolve subsurface and other resource conflicts. AS 38.05.185(a) requires that before an area of state land can be closed to mining or mineral location, the commissioner must make a written finding that mining would be incompatible with significant surface uses.

Using the criteria established in AS 38.05.185(a), DNR generally finds mining to be incompatible with the surface uses listed below and closes the area to mining or mineral location at specified times in the decision making process. However, each situation will be evaluated separately and a determination made that the requirements of AS 38.05.185(a) have been met.

1. Lands Offered for Sale or Transfer to Other Owners.

a. Areas Scheduled for Disposal. Land scheduled for commercial, industrial, or subdivision sale will be closed to mining and mineral location at the end of the first year of the Land Availability Determination System (LADS) process (that is, approximately two years before the anticipated land sale).

b. Homesteading Areas. Lands available for homesteading will be closed to mining and mineral location at the end of the first year of the LADS process (that is, approximately two years before the anticipated land sale). These areas will remain closed until the allowed number of homestead entries has occurred. At that time, those portions of the project area with few or no homesteads will be reopened for mineral entry and location unless it is determined that the settlement pattern that has resulted creates significant, irreconcilable land use conflicts.

c. Land Proposed for Exchange. Lands proposed for exchange or trade will be closed to mineral entry and location at the time a preliminary agreement to exchange the land is reached.

d. Land to be Transferred to Another Public Agency. Lands reserved for transfer to another public agency for development of a public facility or reserved as a future townsite will be closed to mineral entry and location at the time the area is classified "reserved use" or an Interagency Land Management Agreement is signed.

2. Retained Lands. Lands and waters that support production or maintenance of fish or wildlife species that have significant economic, recreational, scientific, educational, or cultural values, or which have been given special protection through state or federal legislation or international treaty. In the Northwest Area,

lands and waters in this category include bird rookeries and sheefish spawning areas identified in Appendix H. See also the *Subsurface Designation Summary* map in this section.

C. Leasehold Location Areas. Requiring that locatable mineral developments occur under a lease is a more flexible management tool than mineral closure. Therefore, mineral leasing is preferred over mineral closure as a management option to resolve conflicts between other significant resources and mining and mineral location. AS 38.05.185(a) requires that for mining to be allowed only under written leases issued under AS 38.05.205 the commissioner must determine that either there are potential use conflicts on state land or the land was mineral in character at the time of state selection. Under 11 AAC 86.135(b), if a surface disposal area is not closed entirely to mineral entry, it will be made available only by leasehold location. See "Mineral Lease" in the glossary in Appendix A.

After consultation with DF&G, affected coastal districts, and DEC, and concurrent with the designation of an area being open to locatable mineral entry under lease, DNR will identify potential conflicts between mining and other resources that need protection. DNR will also state the general nature of stipulations to be used in leases to protect those other resources. Within the Northwest Area Plan, no areas are currently recommended for leasehold location.

D. Coal Leasing. Within the Northwest Area, all state lands are available for coal leasing, except state uplands within one-quarter mile of one seabird rookery at Corwin Bluffs (see *Management Unit 1: Lisburne*).

Oil and Gas Guidelines

Although the Northwest Plan Area has been explored only minimally for oil and gas, some interest exists for the oil and gas potential of the area. Immediate exploration prospects are fairly low primarily because of depressed oil prices. The state has not leased any land for oil and gas exploration and development within the plan area, although Norton Bay (Sale 38) was first proposed in 1979, tentatively set for January 1983, and dropped in July 1982. Four sales--Icy Cape (Sale 53), Hope Basin (45), Offshore Icy

Cape (58), and Point Franklin (60)--were proposed in the 1986 leasing program but were dropped in 1987 due to state budget constraints and industry focusing on developed resource areas. Thirteen seismic permits have been issued in or near the planning area.

In the past, lease sales have been proposed for Selawik and Chukchi basins, but neither is on the current DNR five-year leasing program. If and when any areas in the Northwest Area are added to the five-year schedule, measures will be designed to protect current uses of the area. DNR will consider methods to protect particularly important areas such as coastal estuaries or upland river corridors. To assure that the public is informed and has the opportunity to comment, the Division of Oil and Gas, through its public outreach program, will request comments several times in the sale planning process, and will conduct public meetings or hold teleconferences in the area. The plan encourages the widest possible distribution of notices to the organizations listed in Appendix B, but recognizes that notifying each group in Appendix B is not necessarily a statutory or regulatory requirement and that failure to satisfy portions of this recommendation will not jeopardize the project. The coastal plan consistency process will apply in appropriate areas. See *Coordination and Public Notice Guidelines B and C*, page 2-5.

A. Exploration Techniques that Minimize Clearing. Where there are trees in the Northwest Area, exploration techniques that minimize the clearing of trees will be used wherever feasible in order to avoid altering valuable fish and wildlife habitats, avoid increasing access to sensitive areas, and avoid increasing the chance of bark beetle infestation. Clearing of forested areas through bulldozing, or other means, for the sole purpose of seismic exploration will not be approved by the Director of the Division of Oil and Gas unless there is no feasible alternative, and only after consultation with the Division of Forestry and the Department of Fish and Game and appropriate coastal districts.

To prevent bark beetle populations from building up beneath the bark of felled trees and infesting nearby living trees, white spruce that is felled must be hydro-axed, burned, buried or similarly disposed of, as required by the Division of Forestry.

B. Removal of Abandoned Facilities. Sites leased or permitted by the state and later abandoned must be rehabilitated. Facilities must be removed as well. Exceptions may be made if the site can be used for future purposes, if removal and rehabilitation would cause greater impacts than abandonment, or if the action is not in the state's best interest. The exception will be determined by the Director of the Division of Oil and Gas and the Director of Land and Water Management, after consultation with Alaska Department of Fish and Game and affected coastal districts.

C. Pipeline Design. Pipelines should be buried. Where conditions prevent burial, pipelines will be sited and elevated, ramped, or otherwise designed to allow free passage of big game animals.

D. Worker Education. Many people working on oil and gas exploration and development will not be aware of the environmental and social considerations essential to proper development of the sale area. Therefore, lessees shall include in any exploration or development plans a proposed training program for all personnel involved in exploration or development activities (including personnel of the lessees' contractors or subcontractors) for review and approval by the Director, Division of Oil and Gas.

The program should be designed to inform each person working on the project of specific types of environmental, social, and cultural concerns that relate to the individual's job. The program shall also be designed to increase sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which these personnel will be operating. Harvest regulations shall also be addressed in the program.

The program should be formulated and implemented by qualified instructors experienced in each pertinent field of study, and should employ effective methods to ensure personnel understand and use techniques necessary to preserve archaeological, geological, and biological resources. The program should be developed in consultation with regional or local people and organizations (such as organizations listed in Appendix B) who have the expertise and willingness to participate.

Lessees shall submit for review and approval a continuing technical, environmental, and social orientation briefing program for supervisory and

managerial personnel of the lessee and its agents, contractors, and subcontractors.

E. Oil and Gas Leasing. The plan defers any decisions regarding leasing for oil and gas to DNR's existing leasing process. No oil and gas lease sales are proposed in the current five-year program for state lands in Northwest Alaska.

Other Guidelines Affecting Subsurface Resources

Several other guidelines may affect subsurface resources. See the following sections of this chapter:

- Coordination and public notice
- Fish and wildlife habitat
- Heritage resources
- Public access
- Settlement
- Stream corridors and instream flow
- Subsistence activities and traditional uses
- Trail management
- Transportation
- Wetlands management

Land Allocation Summary

This plan determines whether lands are open or closed to mineral entry and where minerals are designated a primary surface use. A primary surface use designation for minerals is made in certain cases where there is currently intensive subsurface resource exploration or development of statewide significance or where major subsurface development is likely to occur within the 20-year planning period. Primary designations are established to recognize that mineral development is one of the major surface, as well as subsurface, activities in these areas.

Many of the state lands in Northwest Alaska were selected primarily for their mineral potential. Although about 18 percent of all lands in the Northwest Area were rated high or very high mineral potential, almost twice that amount, or 35 percent, of state-owned or state-selected lands show these values. Although there are numerous areas of high mineral potential throughout Northwest Alaska, few of them will be developed into large operating mines during the next 20 years. Numerous small placer mines

will continue to operate on the Seward Peninsula. Larger mining developments are likely at Red Dog and Lik, at the Big Hurrah prospect in southwest Seward Peninsula, and at large offshore dredges in Norton Sound.

Mineral Location. Mining is a primary use in nine subunits in the planning area. These areas were designated because of their high mineral values and because they currently contain subsurface resource development or are likely to be developed in the future. Mineral potential ratings were based on whole townships, however, portions of the designated lands have low or moderate mineral values.

Areas in the plan with surface designations for minerals include three types: mineral lands (primary use), minerals/habitat and harvest lands (co-primary uses), and coal/habitat and harvest lands (co-primary uses). The following areas have these designations.

Mineral lands

- 2d 2 areas: along the Inmachuk and Kugruk rivers and near Granite Mountain
- 3c the Ambler-Bornite mineral district
- 4d 2 areas: Kougurok and Ear Mountain
- 5d 2 areas: Casadapega and the greater Nome district

Minerals/habitat and harvest lands

- 2c 3 areas: the Red Dog district; along the Kiwalik and Kugruk rivers; near Granite Mountain
- 3b the Ambler-Bornite mineral district
- 4c the Taylor area
- 5c 3 areas: Council, Nome, and Casadapega

Coal/habitat and harvest lands

- 1c 2 areas: Kasegaluk Lagoon, south of Kukpowruk River; and west of Corwin Bluffs

Note: Subunit 2c near the Kugruk River (Chicago Creek) also has known coal deposits, designated minerals/habitat & harvest/coal lands.

Almost all state land in the plan area with the exception of 13 seabird nesting cliffs/areas and lands within one-quarter mile of these locations, as well as seven sheefish spawning areas including the streambed and an area 200 feet either side of ordinary high water line, will remain open to mineral entry for locatable minerals. To protect these habitat areas, 9,320 acres will be closed to mineral entry, less than one-tenth of a percent (.06 percent) of state lands in the planning area.

Settlement areas totalling 31,000 acres will be closed to new mineral entry prior to being offered for sale. Remote cabin areas have been configured to avoid areas with large numbers of mining claims.

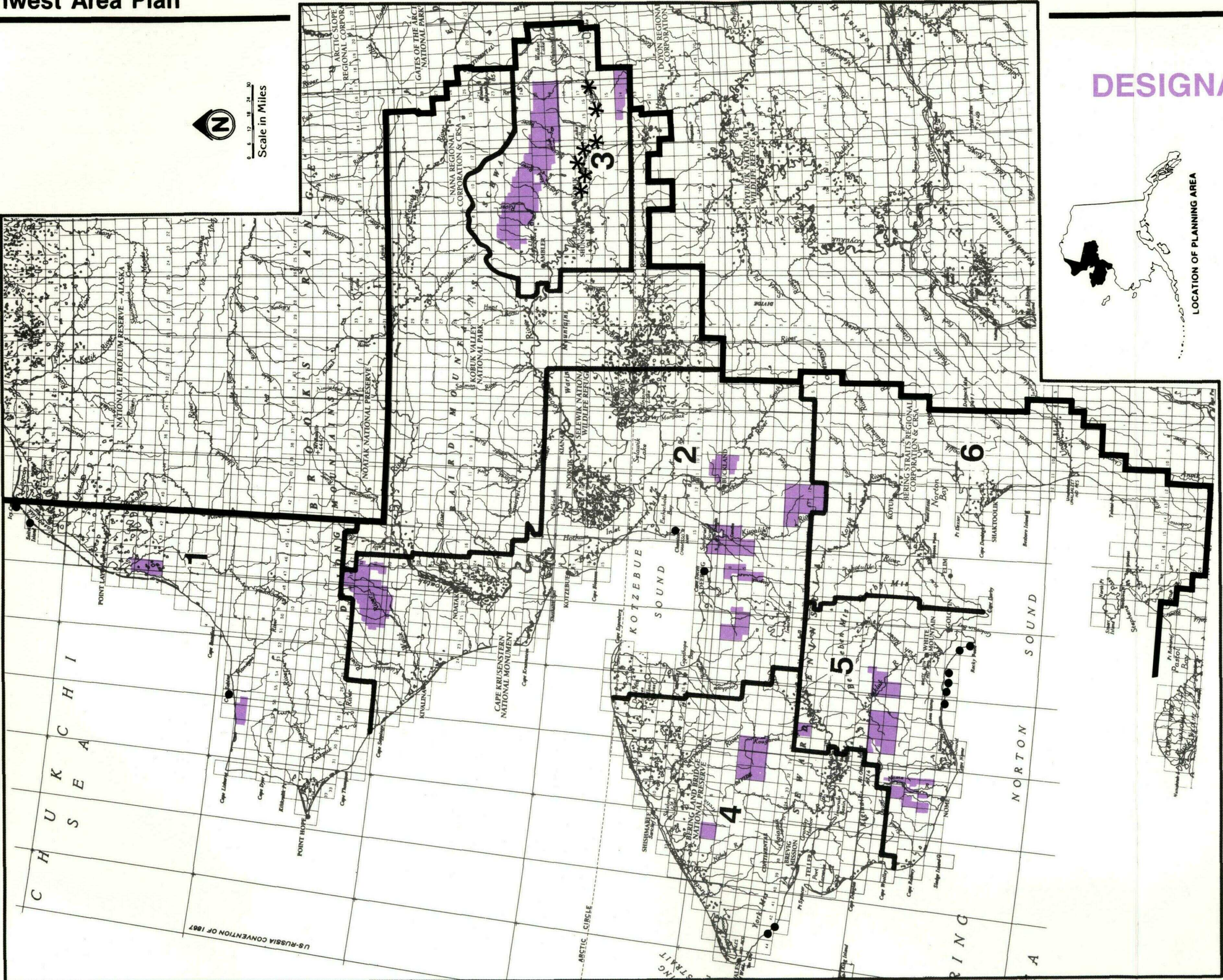
Mineral closures and other policies resulting from this plan neither alter nor replace existing regulations, nor do they affect existing mineral closures. The areas that are closed by the plan apply only to new exploration and development activities. Any existing leases, prospecting permits, or mining claims will not be affected.

Oil and Gas and Other Leasable Minerals.

All state uplands, tidelands, and submerged lands are available for oil and gas exploration. The plan defers any decisions concerning leasing for oil and gas to DNR's Five-Year Oil and Gas Leasing Program. No areas in Northwest Alaska are currently proposed for lease. Leases for other leasable subsurface resources such as coal will be offered on a case-by-case basis consistent with the management intent and guidelines of the unit. Varying degrees of oil and gas potential are known to exist for the Colville Basin, Selawik Basin, Brooks Range Foothills, and Brooks Range Province within the plan area.

Coal is potentially an important energy resource in the northwest region. All state land in the area is available for coal prospecting and leasing except one seabird nesting area. The Corwin Bluffs seabird rookery will, by plan guideline, remain closed to coal leasing. The area will remain open to leasing for other leasable minerals such as oil shale, sedimentary uranium, potassium, sodium, and geothermal resources. Any leases for coal or other leasable minerals will be dealt with on a case-by-case basis consistent with the intent of the appropriate management unit, plan guidelines, and existing laws and regulations.

SUBSURFACE
DESIGNATION SUMMARY



LOCATION OF PLANNING AREA

- MANAGEMENT UNIT BOUNDARY
- AREA PLAN BOUNDARY
- PRIMARY OR CO-PRIMARY MINERALS OR COAL DESIGNATION

AREAS CLOSED TO NEW MINERAL ENTRY

- BIRD ROOKERY AREA
 - State-owned or state-selected uplands and/or state tidelands within 1/4 mile radius of the bird rookery area

- SHEEFISH SPAWNING AREA
 - Streambeds and state-owned or state-selected uplands within 200 feet of ordinary high water mark

ALL OTHER STATE LANDS REMAIN OPEN TO MINERAL ENTRY

See Appendix H for more detailed maps and acreage descriptions of areas closed to new mineral entry. All remaining state lands are open for mineral location, except for the previously proposed settlement areas of Grand Central and Pilgrim which are closed to mineral location. Existing mining claims will not be affected by these closures. All state land including navigable waters that are open to mineral location are multiple use areas where mineral development will be accommodated and encouraged consistent with applicable state law and policies in the plan. All state lands are available for coal leasing, except near one bird rookery at Corwin Bluffs. All state lands are available for oil and gas leasing.